

when dry very much crisped, when moist subarcuate, short attenuate to the acute apex ; borders revolute above the base, for the greater part, at least on one side, distinctly papillose, also at the back ; cells at basal wings sub-quadrate hyaline with incrassate transverse walls, those next the costa narrower, rectangular, in straight rows, the lowest orange ; costa pale, sub-percurrent. Male flower at the side of the female. Inner perigonal leaves broad, short-ovate, obtusate or suddenly short-acuminate ; cells round only in the acumen, the others narrow, the lower basal wider and yellow : antheridia about 9, with several paraphyses. Perichetial leaves with sublinear basal cells. Capsule dark-brown short subovoid, not contracted at the mouth, costate ; pedicel short, scarcely emergent. Calyptra densely hairy.

This species is a true *Ulot*, although the revolute leaf-borders, the distinctly papillose cells and short pedicellate capsule are more like an *Orthotrichum*.

On cedar trees (*Thuja occidentalis*) in Dow's Swamp, September 16th, 1886.

Both the preceding species are believed to be forms of *U. crispa* by Mrs. E. G. Britton, who has made a special study of the genus.

XIX. ORTHOTRICHUM, Hedw.

54. *O. anomalum*, Hedw.

On rocks and ledges along the Ottawa at Governor's Bay, Rockcliffe Park ; also on ledges near McKay's Lake, in fruit April 22nd, 1896. Fruiting.

55. *O. speciosum*, Nees.

Common on balsam fir, cedar and spruce trees in the woods east of Beaver Meadow west of Hull, Que. : also on spruce trees in Rockcliffe Park ; collected on trees and fence rails near Hintonburg, April 13th, 1896. Fruiting.

56. *O. sordidum*, Sulliv. and Lesq.

Common on beech trees in woods near Ironsides, Que. : collected on trees in Rockcliffe Park and Beechwood Cemetery, April 22nd, 1896. Fruiting.

57. *O. Ohioense*, Sulliv. and Lesq.

On trunks in woods near Leamy's Lake, Hull, Que. : old fence rails at Carleton Place : collected on trees in woods near Governor's Bay, Rockcliffe Park, April 22nd, 1896. Fruiting.

58. *O. Canadense*, Bruch and Schimp.

This species appears in Part VI under *O. Schimper* but was discovered by Mrs. E. G. Britton when monographing the genus some